

It was found in *Pool's Hole* in *Derbyshire*. Its Sutures or Diaphragms resemble those of some of the larger *Cornua Ammonis*; but its Shape bespeaks it to be a Species of *Nautilus*; and it is thought to be a Non-descript, both in its natural and fossil State.

VIII. *The Substance of a Letter from Mr. William Arderon F. R. S. to Mr. Henry Baker F. R. S.*

Read May 12. 1748.

OF all the several Kinds of Fish which for some Years past I have been keeping in glass Jars (in hopes of becoming acquainted with the Nature and Properties of these Animals, by having them daily under my Inspection) none seems more impatient of Imprisonment, if I may so call it, than the Roach; nor, if they are well look'd after, and supplied often enough with fresh Water, have I observed any, except the Roach, to become distempered. But most commonly, after this Fish has been a little while confined, the finny Part of its Tail begins to drop off Piece by Piece; and when the finny Part is all gone, a sort of Mortification seizes upon the Tail itself, and gradually creeps along until it reaches the Intestines, at which time the Fish immediately dies.

The last Roach I had under this Disorder was about the Beginning of *January*; when in the Space of a Month, it had lost the greatest Part of the Fin, which induced me to clip off the rest, hoping thereby

thereby to stop the Progress of the Mortification. But this was of no manner of Service that I could perceive: The Distemper still gained Ground; and as it increased, a fine fibrillous Substance grew out from it, and appeared like what the Picture shews at *Fig. 3.* in TAB.

These Fibrils, when examined by the Microscope, shew themselves to be a Number of minute Tubes, filled with a brownish Liquor; and this Liquor, upon pressing them, becomes immediately discharged.

A small Piece of this Fish, with the Fibrils growing out of it, as seen by the fourth Magnifier of Mr. Cuff's double Microscope, is shewn at *Fig. 4.*

When first I perceived this fibrous Substance enveloping the Fish's Tail, I supposed it to be nothing but a Mouldiness, of that kind which frequently is seen upon decayed Flesh and Fish; but, upon Trial, I found it to be of a much stronger Texture and Consistence than such Mouldiness is ever known to have; for, notwithstanding I have several times let a full Stream of Water run upon it from a Cock, I could never wash it off.

This Fish lived with me till the latter End of *March*, and then died; having for many Days before its Death lain at the Bottom of the Jar, without being able to rise.

As the Mortification advanced, and came nearer to its Intestines, the Quickness of its taking Water in at the Mouth increased, till at last it took it in three times faster than a lively strong Fish did.

On my cutting off Part of the Fish's Tail, in hopes of stopping the Mortification, the Equilibrium of the Body was so far lost, that it hung in the Water most commonly with the Head downwards,

and could never afterwards continue in any other Posture, without great Strugglings, or sinking down to the Bottom of the Vessel. Which may serve to shew how nicely and wonderfully the Bodies of Fishes are balanced, for the keeping them in an horizontal Position ; since in this Case the losing a few Grains of the Tail could so sensibly destroy the Equilibrium, as to render the rest of its Fins almost useless.

I dare not however assert it will happen thus to all sorts of Fish on cutting off the Tail; nor does it to the Roach immediately: For as it is a Posture very unnatural and troublesome to Fishes, they exert all their Strength to prevent their Heads from sinking downwards; until, being wearied out, they at last are forced to submit. I remain,

Dear Sir,

Norwich, April 14.

1748.

Your most obedient Servant,

W. Arderon.

IX. *A Letter from Mr. Robert Roche to the President, of a Fustian Frock being set on Fire by Electricity.*

Honoured Sir, *London, May 17, 1749.*

Read May 19. 1747. **I**f your Goodness will excuse the Liberty a Stranger has taken in giving you this Trouble, hoping the following Account will